

THERMAL BARRIERS WITH REVERSIBLE ENHANCED THERMAL PROPERTIES

ABSTRACT OF THE DISCLOSURE

A thermal barrier comprises a first barrier layer, a second barrier layer, and a base material positioned between the first barrier layer and the second barrier layer. The base material comprises a plurality of regions and a barrier zone separating the regions. The thermal barrier further comprises a non-encapsulated phase change material impregnating one or more of the regions. The barrier zone hinders migration of the phase change material in its liquid state within the base material, and the first barrier layer is bonded to the second barrier layer to enclose the base material. The thermal barrier may be used or incorporated in various products or applications where thermal management is desired. For example, the thermal barrier may be used in textiles, apparel, footwear, medical products, containers and packagings, buildings, appliances, and other products.